REMARKS

This Response responds to the office action dated January 13, 2005.

The Examiner has allowed claims1-27, 34, 36, 37, 39, 40, 42, 44, and 46. The Examiner has rejected claims 28 and 30-32 under 35 U.S.C. § 103(a) as being obvious in view of the combination of Wiggins, U.S. Patent No. 4,538,185 and Dobbs et al., U.S. Patent No. 5,310,789 (hereinafter Dobbs). As explained below, this rejection is improper because the Examiner has not provided the required prima facie showing that (1) the combination of references teaches all claim limitations and (2) that there is a suggestion in the prior art to make the cited combination.

Independent claim 28 claims an scanning system that has a backing and an imaging device sensing an object "wherein said imaging system determines at least one general bounding region of said object by converting a first color space of an image obtained from sensing said object to a second color space where the luminance of said image is enhanced over the first color space *for determining said at least one boundary of said object.*" (emphasis added). As the Examiner correctly notes, Wiggins discloses a scanner having a backing and an image sensor that senses an object (the document 26 of Wiggins) but fails to disclose the limitation that the imaging system senses at least one bounding region of the document by the claimed color space conversion. Instead, Wiggins uses a corrugated backing such that the signal output from the scanner increases markedly when the sensor sweeps from the document boundary to the exposed corrugated backing. *See* Wigging at col. 4 lines 40-63. The increase in the signal is detected by the scanning system, which infers that the document boundary has been detected, or "determined".

Dobbs, conversely, merely discloses an image processing system that allows a person to correct certain perceived defects in an image viewed on a display. *See* Dobbs at col. 1 lines 15-23; col. 2 lines 6-9; col. 3 lines 42-49 (describing the invention as a mechanism that permits the controlled color adjustment of *selected* regions of a color image). The particular defect addressed by Dobbs is the common "red-eye" effect that occurs when a photograph of a person's face is taken using a flash. Specifically, Dobbs discloses that, after a person views the image on a monitor and selects the portions of the image having the perceived "red-eye" defect, the person then selects a pixel of the image most representative of the red color to be darkened. *See* Dobbs at col. 2 lines 6-13. With this input from the user, the software then makes an automatic correction. First, the software converts the RGB pixels within the user-selected region or regions to luminance and chrominance values. Then the software darkens any pixel that is within the user-selected region and that has chrominance values within a software-defined, elliptical boundary around the chrominance values of the representative pixel selected by the user. This elliptical boundary is *not a boundary of the image*; rather, it is simply a mathematical construct used to define chrominance values, where pixels in the image having those values are adjusted. When darkening each pixel, both chrominance values are adjusted, as well as the pixel's luminance value. Once the red-eye has been corrected, the colors are converted back to the RGB color space.

With this background, the applicant notes that in order to support a rejection under 35 U.S.C. § 103(a), the Examiner must demonstrate a prima facie case of obviousness. This prima facie case must include a showing that there is a suggestion in the prior art to combine the references (MPEP § 2143) and that the asserted combination teaches all the limitations of the

rejected claim (MPEP § 2143.03). When determining whether the prior art suggests a combination, the Examiner is to consider the knowledge of one of ordinary skill in the art, as well *as the nature of what is to be solved.* MPEP § 2143.01.

Independent claim 28 includes the limitation that "said imaging system *determines at least one general bounding region of said object* by converting a first color space of an image obtained from sensing said object to a second color space where the luminance of said image is enhanced over the first color space *for determining said at least one boundary of said object.*"(emphasis added) Wiggins does not determine a boundary of its disclosed document by converting the color space of the scanned image, as the Examiner acknowledges. Dobbs converts the color space of *portions* of a digital image, but does so, not to determine boundaries of an imaged document, but instead to merely correct the red-eye defect in images identified by a person viewing the image on a monitor. Therefore, even if these two references were combined, the combination would not disclose the limitation recited above, because Dobb's color conversion cannot assist in the determination of the boundary of the document in Wiggins' scanner. In fact, given that Wiggins' scanner lacks a monitor or other display, the color correction process of Dobbs would be completely ineffectual because there would be no way to identify a representative pixel, the color of which is to be used to darken all similarly colored pixels.

More basically, the Examiner has failed to indicate any function performed or otherwise indicated as desirable by Wiggins that would be improved on, or substituted by, the color correction process of Dobbs. No person skilled in the art would see any function in the scanner of Wiggins to which the teachings of Dobbs are relevant because each respective reference is

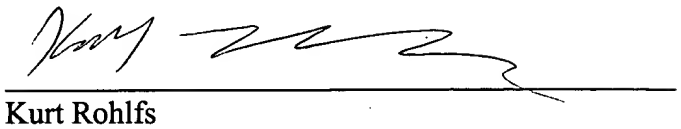
directed to completely separate applications. Wiggins discloses a method of capturing and replicating an image, while Dobbs is directed to altering a digital image that has been previously captured. Thus, there is no indication that any of the mathematical algorithms suitable for correcting a specific defect commonly found in images captured by a camera would be remotely relevant to procedures used by a scanner when detecting the boundaries of a document and subsequently scanning that document.

The Examiner vaguely asserts that, as a result of the color space conversion of Dobbs, "the luminance contour detail is preserved." First, Wiggins does not disclose that there exists any luminance contour detail in the document 26 in need of preservation. Second, the Examiner is misreading Dobbs. When changing the color of certain pixels from red to black, Dobbs adjusts luminance and cautions that when doing so, luminance should be adjusted *by* an offset rather than *to* an offset in order to preserve contour detail during the conversion process. Dobbs does not disclose that luminance detail may be preserved by a color conversion. Dobbs merely discloses that *when performing color conversion*, it must be done in a way that preserves luminance detail, and then discloses an algorithm that achieves such preservation. Thus, the goal of preserving luminance detail *presupposes* a color conversion process; it does not *suggest* the desirability of a color or luminance conversion process.

For the foregoing reasons, the Examiner's rejection of claims 28, and 30-32 was improper and should be withdrawn, as should the Examiner's objection to claims 35, 38, 41, 43, 45, and 47.

In view of the foregoing amendment and remarks, the applicant respectfully requests reconsideration and allowance of claims 1-28, 30-32, and 34-47.

Respectfully submitted,



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